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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/571,084 | 03/06/2006 | Yoshiaki Echigo | 13006.118 | 2448 |

7590 12/26/2007
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| EXAMINER |
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LAM, CATHY FONG FONG

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| ART UNIT | PAPER NUMBER |
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1794

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| MAIL DATE | DELIVERY MODE |
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12/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/571,084 | Applicant(s) ECHIGO ET AL. | |
| | Examiner Cathy Lam | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

In view of Applicant's remarks filed on September 21, 2007, the pending claims continue to be unpatentable as following:

Applicant has filed a seems to be a specification, Applicant however has not clearly stated whether this paper was a substituted specification or was it an amendment to the original specification. The number of pages of this specification has only 9 pages, whereas the original specification has 35 pages. Applicant seemed to have deleted an enormous amount of the original specification, clarification is required.

Claim Rejections - 35 USC § 103

1. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataoka et al (US 5637382) in view of Japanese Patent Document 55-153393.

Kataoka teaches a flexible printed circuit board that is a copper coated laminate. The copper coated laminate is comprised of a polyimide film (14) and two copper layers (16) (Fig. 2).

The two copper layers (16) are respectively laminated to the surfaces of the polyimide film (14) without any adhesive (col 4 L 38-52).

Kataoka teaches only one polyimide film (14) between the copper layers.

The Japanese patent document 55-153393, teaches a flexible printed circuit board comprised of two metal clad layers and an adhesive layer.

The metal clad layer is comprised of a metal foil and an insulating layer, with the metal foil clad directed onto the insulating layer. The adhesive is placed between the two insulating layers, with the metal foils facing outward. The adhesive is thermosetting

silicone resin material. Heat and pressure is applied to the clad layers to form a laminate.

The document is silent about the material used for the insulating layer.

In view of the prior art teachings, one skill in the art would choose polyimide to be the insulating film of the JP 55-153393 document because polyimide is well known to have high thermal stability and it is widely chosen to be used for various PCB substrates. Furthermore, one skill in the art would choose an adhesive to obtain a desired adhesive strength between the insulating layers because it has been held that the discovery of workable material of result-effective variables, such as the particular adhesive varnish would be within the ordinary skill of the art.

Applicant submitted the Japanese patent document 55-153393 without any English translation. The examiner obtained an oral translation from the Patent Office Translation Branch colleague. If Applicant feels the translation is in err, Applicant is encouraged to submit a full accurate translated document when respond to this office action.

Response to Arguments

2. Applicant's arguments filed on September 21, 2007 have been fully considered but they are not persuasive. The examiner is taking the position that choosing a adhesive to obtain a desired bond strength between two insulating layers are well within a skill artisan, therefore the examiner continues to rely on the prior art cited in the last office action.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

Application/Control Number:
10/571,084
Art Unit: 1794

Page 5

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Cathy Lam
Primary Examiner
Art Unit 1794

cfl
December 19, 2007